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No. 1320

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CONTENTS

POST HARVEST CROP PROCESSING

Application of Waste-Free Technology in Processing Field, Farm Yield
(S. Medunov; PLANOVOYE KHOZYAYSTVO, Dec 81)................. 1

LIVESTOCK

Review of Deficiencies in Estonian Milk, Livestock Yields
(SOVETSKAYA ESTONIYA, 15 Jan 82)............................ 7

Rabbit Raising Advanced
(ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV, Dec 81; SEL'SKAYA ZHIZN', 20 Jan 82).............................. 10

Augmenting Meat Supply in Kirghiz SSR, by Yu. Romanenko
Kazakh Rabbit Breeding Underdeveloped, by V. Krinitskiy

AGRO-ECONOMICS AND ORGANIZATION

Developmental Projections for Agriculture in New Five-Year Plan
(EKONOMIKA SEL'SKOGO KHOZYAYSTVA, Dec 81).................... 17

Importance of Subsidiary Enterprises of Industry Considered
(Yu. Azbukin; SOTSIALISTICHESKAYA INDUSTRIYA, 25 Dec 81)..... 27

Intersectorial Inefficiencies in Estonian Food Program Discussed
(L. Torshina, et al.; SOVETSKAYA ESTONIYA, 25 Dec 81)........ 31

Differential Norm Estimates Set in Estonia To Aid Lagging Farms
(Yan Praggi; SEL'SKAYA ZHIZN', 17 Jan 82).................. 39

TILLING AND CROPPING TECHNOLOGY

Adaptation of Equipment, Tillage Measures to Northern Kazakhstan Conditions
(E. Gossen, V. Khan; SEL'SKAYA ZHIZN', 11 Dec 81)........... 42

POST HARVEST CROP PROCESSING

APPLICATION OF WASTE-FREE TECHNOLOGY IN PROCESSING FIELD, FARM YIELD

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 81, pp 11-15

/Article by S. Medunov, 1st secretary of the Krasnodarskiy Kray CPSU Committee: "New Methods of Waste-Free Technology for the Processing of Fruits and Vegetables"/

/Text/ During the 26th CPSU Congress, it was pointed out that a "pivotal point of the economic policies involves work that is both simple and very routine--a thrifty attitude towards public property and the ability to utilize fully everything that we have at our disposal. The initiative of working collectives and mass-party work must be directed towards achieving this goal."*

One direction to be followed in carrying out this task involves the introduction of a waste-free technology for the processing of agricultural products, a technology that is being employed rather extensively at enterprises in Krasnodarskiy Kray.

Krasnodarskiy Kray, with its population of approximately 5 million persons, occupies an area of more than 83,000 square kilometers. It includes the Adygeyskaya AO. The hero-city of Novorossiysk and the legendary Malaya Zemlya are located within the kray.

The kray's annual volume of industrial production is in excess of 8 billion rubles. The products of many enterprises are exported through the ports of Novorossiysk and Tuapse to 70 countries throughout the world. This includes vertical turning and boring machines, compressors, measuring instruments, Yeysk printing and Tikhoretsk road machines, Novorossiysk cement and also furniture, fabric, porcelain-earthenware items and food products.

The KSPEP /Krasnodarskaya kompleksnaya sistema povysheniya effektivnosti proizvodstva; Krasnodar all-round system for raising production efficiency/, which has been approved by the party's central committee, is being introduced into industry in all areas.

In Krasnodarskiy Kray there are 314 kolkhozes and 328 sovkhozes, with 5 million hectares of land assigned for their use. The Kuban' is a large agricultural region of stable, intensive and highly marketable agriculture, in which specialization, agroindustrial integration and interfarm cooperation are being implemented in an efficient and consistent manner. The principal crops are winter wheat, rice, corn, sugar beets, sunflowers, vegetables, fruit, grapes and tea.

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* Materials of the 26th CPSU Congress. Moscow, Politizdat, 1981, p 42.

During the 1970's, upon the initiative of L.I. Brezhnev, a large base for domestic rice growing was created in the kray. Engineering rice systems occupy more than 250,000 hectares. In 1980, the Kuban' workers produced more than 1 million tons of rice. Animal husbandry commenced operating on an intensive basis. The results achieved by rural workers during the Tenth Five-Year Plan, in terms of productivity, production and the sale of products to the state, were the highest throughout the entire history of agriculture in the Kuban' region.

The Kuban' is known as being the largest zone for resorts, sanatoriums and childrens' health institutes. Each year, more than 10 million individuals strengthen their health at these facilities.

In the report delivered to the 26th congress by the CPSU, the General Secretary of the CC CPSU, L.I. Brezhnev, advanced an important task -- the development and consistent implementation of the food program. The principal methods for solving this task were defined in the Basic Directions for the Economic and Social Development of the USSR During the 1981-1985 Period and for the Period Up To 1990. In particular, these directions called for a closer alliance between agriculture and the processing industry, for more efficient utilization of the products of fields and farms and for reductions in losses at all levels of the agroindustrial complex.

The kray's party and economic organizations, jointly with the central departments, have outlined and approved a group of measures for developing and carrying out the kray's food program during the eleventh and twelfth five-year plans. The measures are directed towards solving many problems associated with the production, storage, processing and sale of agricultural products, with considerable emphasis being placed upon the complete use of raw materials and the introduction of low-waste and waste-free technologies.

The extensive introduction of the waste-free technology represents a new stage, from the standpoint of quality, in the rational use of field and farm products, a stage which in addition to its economic advisability is of considerable moral importance, since it aids in instilling thrift and an economic attitude towards national property in the workers.

During the Tenth Five-Year Plan, the following materials were procured for satisfying the requirements of animal husbandry (average annual figures): 2.4 million tons of straw and chaff, 455,000 tons of sugar beet tops and 173,000 tons of sunflower heads and stalks. In terms of their nutritional value, the processed waste products satisfy 10 percent of the overall feed requirements.

A power feed preparation industry has been created in the kray for the purpose of achieving more efficient use of the forage resources for animal husbandry. There are 1,700 feed preparation shops in operation at kolkhozes and sovkhozes, engaged in processing all coarse and succulent feed into rich mixtures. This is promoting the systematic conversion of large-horned cattle, and particularly the dairy herd, over to year-round single-type rich feeding and it is raising the productivity of the animals throughout the year.

A large mixed feed industry has been created in the kray which makes it possible to produce more than 2 million tons of mixed feed annually. The production of such feed increased by almost threefold during the past five-year plan.

At the present time, the proportion of grain in mixed feed throughout the kray is 70-90 percent, but measures are being developed for reducing grain expenditures for mixed feed production by 10-15 percent. This will be accomplished by substituting other full-value components for the grain, especially technical waste products of the processing industry. Each year the kolkhozes and sovkhozes obtain more than 0.5 million additional tons of feed units from the enterprises in the form of such additives. Measures are also being undertaken to make use of other secondary products deemed suitable for the preparation of mixed feed.

A plant for the production of 700 tons of meat and bone meal annually is in operation in the kray. Four more such plants will be built during the Eleventh Five-Year Plan, one of them during this current year. The plans call for the waste products of the leather industry to be processed into feed meal at these enterprises.

Great importance is being attached to the use of food scraps for feeding to livestock, scraps collected from the population and from public catering facilities. During last year alone, more than 20,000 tons of pork were obtained from the use of such waste products. Future plans call for the construction of a number of large shops for the drying out of such waste products -- at Sochi, Gelendzhik, Krasnodar and in other cities.

At the present time, a technology has been developed at the Krasnodar Chemical Combine for obtaining nutrient yeasts from winter wheat and rice straw, with a yield of 10-12 percent finished product being obtained. The introduction of this technology will enable the Kavmikrobioprom association, using existing capabilities, to process 130,000 additional tons of straw and to produce 15,000 tons of hydrolyzed yeast annually, containing approximately 50 percent readily assimilable protein.

Enterprises of the processing industry are carrying out purposeful work aimed at raising the efficiency of preparation of agricultural raw materials and eliminating losses. In the process, a maximum amount of attention is being given to producing increased quantities of food products.

During the Tenth Five-Year Plan, at plants of the Krasnodar Association of the Dairy Industry, new production efforts were organized and technological processes were introduced for ensuring the complete use of skimmed milk, buttermilk and whey. This made it possible during the 5 year period to increase the industrial processing of skimmed milk and buttermilk by 10 percent, whey from 25 to 71 percent and to increase the latter to 78 percent during this current year. The use of skimmed milk and buttermilk for producing food products -- sour milk and cottage cheese -- increased by a factor of 3.5 and reached 116,000 tons last year. In addition, 154,000 tons of skimmed milk are being used for the normalization of milk, with the remaining portion of the waste products being used for feeding to the livestock and poultry.

The waste products obtained from processing are being used to produce leaven for the ensiling of feed, enriched whey and whole milk substitute for feeding to calves and young pigs. During the five-year period, 175,000 tons were produced, thus making it possible to supply the same additional amount of milk for food purposes.

The plans call for the industrial processing of skimmed milk, buttermilk and whey to be increased to 630,000 tons in 1985.

The waste-free technology is also being employed extensively at enterprises of the Krasnodar Production Association of the meat industry. During the past five-year plan, a number of organizational-technical measures and scientific developments were implemented here in connection with the rational use of and reduction in waste products obtained from the processing of livestock, poultry and rabbits. Practically all of the waste products are being used. The use of blood for food purposes increased by 20 percent during the five-year period, bones -- by 32 and sub-products of the second category -- by more than 20 percent. This made it possible to add 7,800 tons of these valuable products to the food resources. As a result of the extensive use of various protein additives during the production of cooked meats and semi-finished products, a savings of 8,600 tons of meat was realized. A great deal has been accomplished towards improving the use of technical waste products, as a result of which almost 26,000 tons of dry animal and plant feed, technical and feed fat and feed broth were obtained last year alone. The yield of products per ton of raw material increased during the five-year period by almost 9 percent.

One reserve for the production of protein feed is that of processing the raw materials left over from slaughtering operations at meat combines. The kray's kolkhozes, sovkhozes and other organizations are not slaughtering their livestock locally. Even the livestock to be used for meat, for satisfying intra-farm needs, are sent only to meat combines. During the past five-year plan, 58,000 tons of such raw materials were processed and this made it possible to produce 1,500 additional tons of dry animal feed.

Such waste products from processing as beet pulp and molasses, obtained through use of the technology at plants of an association of the sugar industry, are consumed practically completely. The pulp, in both damp and dried form, is used for feeding to the livestock, with a portion being employed for the production of pectin -- a valuable product for the food industry. All of the molasses is used in the yeast, alcohol and microbiological industry and also for the preparation of feed.

Measures are being carried out at enterprises of the Kuban'vino Association aimed at achieving more complete use of grape pulp for obtaining alcohol distillates, tartrate compounds, feed meal and grape seed, used for producing valuable oils for enterprises of the chemical industry. In 1980, the industrial processing of waste products at the association amounted to 80 percent. Work is being carried out aimed at using grapevines and leaves for the preparation of feed meal.

A considerable amount of work is being carried out aimed at ensuring the complete processing of raw materials and the introduction of the low-waste and waste-free technologies into operations in the canning, oil and fat, beer and non-alcoholic, fishing and other branches of the food industry and at subsidiary enterprises of kolkhozes and sovkhozes throughout the kray. A considerable role in conserving in the use of raw materials on the farms is presently being played by 48 juice and canning plants and shops, engaged in processing non-standard products and having a capability of 80 million standard cans.

The kray party committee is supporting and disseminating all useful undertakings associated with the use of the waste-free technology and especially new methods for the processing of fruit and vegetables. A great amount of assistance is being furnished in this regard by the Ukrainian Academy of Sciences, headed by its president B.Ye. Paton.

This year the bureau of the Kray CPSU Committee approved the initiative displayed by specialists and engineering-technical workers attached to the food industry administration of the Kray Executive Committee, in organizing a socialist competition during the Eleventh Five-Year Plan for maximum utilization of local raw material resources and for raising production efficiency based upon the extensive introduction of the waste-free technology under the motto "the waste-free technology -- for each enterprise!"

In the decree adopted by the CC CPSU and the USSR Council of Ministers entitled "On Intensifying Operations Associated With Economies and the Rational Use of Raw Material, Fuel-Energy and Other Material Resources," importance is attached to "launching a mass movement of workers for achieving maximum economies in industry, agriculture, transport, construction, in the non-productive sphere and in control. Each Soviet individual must participate actively in the campaign to achieve economies and thrift in production and the daily routine and make his own specific contribution to this national task."

As a result of close creative collaboration between administration workers and scientists at the Institute of Thermo-Physics of the UkSSR Academy of Sciences, a technology for obtaining food powders from fruit pulp was introduced into operations in the kray for the very first time last year. The use of this technology raises the value of the food products and it ensures a considerable savings in the use of sugar, flour and other types of raw materials during the production of confectionery products.

Specialists attached to the administration and to the All-Union Scientific Research Institute of the Confectionery Industry developed a plan for introducing new types of products into production operations, with use being made of food powders obtained from the pomace of fruit, vegetables, beets and so forth.

Each year, an average of 100,000 tons of fruit are processed into juice at enterprises of the administration. In the process, 40,000-45,000 tons of pomace are formed, which can be used for obtaining a considerable quantity of valuable food raw materials.

The initial shops for the production of fruit powders are already in operation in the kray -- at the Severskiy Wine Plant and at the Belorechenskiy and Starominskiy food combines and at certain other enterprises. In addition, a technology is being mastered for obtaining food dyes and vegetable powders at the Novotitarovskiy Food Combine.

At the beginning of this year, the Krasnodarskiy Kray Party Committee and the Presidium of the Ukrainian Academy of Sciences examined and approved an overall plan for introducing the new methods of the waste-free technology for processing fruit and vegetables at enterprises throughout the kray, with the goal being that of raising production efficiency and achieving maximum utilization of the local types of raw materials.

During the Eleventh Five-Year Plan, the plans call for the construction of more than 20 shops for the production of sugar containing powders and products obtained from their use and for the production of powders to be raised to 10,000 tons.

The consistent and persistent use of the low-waste and waste-free technologies represents a considerable reserve for supplementing the food resources.

However, any new endeavor requires a new approach for solving the urgent problems that arise: installation planning and the allocation of the funds required for their construction, ensuring that the necessary materials and equipment are available.

When planning new enterprises, provision should ideally be made for shops for the complete processing of raw materials and for the complete utilization of all production waste products and the modernization of enterprises should be carried out only on the basis of the waste-free technology being introduced into operations. We are of the opinion that the ministries and departments must display high principles and persistence in carrying out this work.

One serious problem is the absence or shortage of specialized equipment for the waste-free technology. It is our opinion that the state plans should now call for the planning and series production of such equipment.

Thought must also be given to stimulating the introduction of the low-waste and waste-free technologies for processing agricultural products, actively carrying out further scientific studies and works in this regard and to improving the coordination of efforts among scientific institutes throughout the country.

An exchange of experiences in implementing the tasks advanced by the 26th CPSU Congress, with regard to ensuring efficient utilization of the products of fields and farms and improving the supply of food goods for the population, will make it possible to bring together all of the best and leading developments and, on this basis, to outline specific methods for the extensive introduction of the waste-free technology.

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LIVESTOCK

REVIEW OF DEFICIENCIES IN ESTONIAN MILK, LIVESTOCK YIELDS

Tallinn SOVETSKAYA ESTONIYA in Russian 15 Jan 82 p 1

[Article: "Special Attention for the Wintering of the Livestock"]

[Excerpts] Despite the caprices of the weather last year, the republic's field crop growers nevertheless succeeded in harvesting their crops, albeit the grain, potato and feed yields were lower than the amounts planned. Nevertheless the state task for the procurement of grain was over-fulfilled and seed for next year's grain and potato crops was placed in storage. The population is normally supplied with potatoes and other vegetables.

The field crop growers recall with gratitude the selfless work performed by the municipal workers, students and pupils, all of whom helped them cope with their seasonal tasks.

Owing to a shortage of feed during the second six-month period and on certain farms, owing to poor work organization last year, the planned volumes for the production and procurement of animal husbandry products were not achieved. Meat and egg production increased somewhat at the kolkhozes and sovkhozes compared to 1980, but less milk was produced and sold. For the republic as a whole, the annual task for the procurement of livestock, poultry and milk was not fulfilled. The obligation for the sale of eggs was fulfilled.

A great amount of concern was displayed last year for the milk situation. No success was achieved in halting the reduction in milk yields which began during the second six-month period. As a result, the productivity of the dairy herd dropped below the figure for 1980. Thirty nine farms failed to reach the 3,000 kilogram milk yield level.

The highest yields were achieved on farms in Paydeskiy Rayon (3,830 kilograms) and yet these yields were 77 kilograms lower than the indicators for 1980. The lowest yields were recorded at kolkhozes and sovkhozes in Khaapsaluskiy Rayon (3,114 kilograms). Compared to 1980, the highest increase was achieved by the animal husbandrymen in Kingiseppskiy Rayon (+19 kilograms). The sharpest reduction in milk yield occurred in Raplaskiy Rayon (-244 kilograms). On many farms in Raplaskiy, Khiyumaaskiy and Tartuskiy Rayons, milk production dropped by as much as 9-12 percent last year.

In all rayons, with the exception of Kingiseppskiy Rayon, decreases took place in the sale of milk to the state (especially noticeable on farms in Raplaskiy, Tartuskiy, Khiyumaaskiy, Yygevaskiy and Vyruskiy Rayons). All 22 of the kolkhozes and sovkhozes in Raplaskiy Rayon failed to cope with their state task for the sale of milk and 16 farms in Paydeskiy and Pylvaskiy Rayons did not fulfill this task.

By the end of last year, the shortage of feed and the low quality of the feed had brought about a reduction in the average daily weight increases during the fattening of large-horned cattle and swine. An important role in this regard was played by the strong frosts experienced during the month of December. A reduction took place in the average weight at which the livestock were sold. In December the farms in Yygevaskiy Rayon sold swine to the state the average weight of which was only 52 kilograms. And the swine sold in Paydeskiy, Raplaskiy and Khaapsaluskiy Rayons weighed 75 kilograms, despite the fact that the usual weight of swine sold here had always been 102-104 kilograms. Since the livestock had been fattened poorly, many farms were unable to fulfill their tasks for selling livestock and poultry to the state. And although livestock and poultry procurements for the republic as a whole had increased compared to the previous year, nevertheless reductions were noted in Raplaskiy, Vyruskiy, Vil'yandiskiy and Valgaskiy Rayons. The tasks for meat procurements were fulfilled only by the farms in Khar'yuskiy, Khiyumaaskiy and Kokhtla-Yarveskiy Rayons.

Non-fulfillment of the tasks for procuring livestock, poultry and milk caused definite difficulties to arise in connection with supplying the population with the necessary products. The period of mass calving occurs during March and April and this should bring about an increase in milk production.

A majority of the poultry raising farms coped with their planned tasks for the production and sale of eggs to the state. The work performed at the Tallinn Model Poultry Factory is deserving of special mention.

The difficulties encountered last year made it possible to discern certain areas of neglect in work organization and they also revealed some reserves for the production of milk, meat and other animal husbandry products.

The differences in the operational indicators of individual farms and rayons are considerable (and often unjustified). During the first 10 days in January, the farms in Pylvaskiy Rayon obtained an average daily milk yield of 7 kilograms per cow (only 0.3 kilograms less than the figure for 1 year ago. The average daily milk yield for kolkhozes and sovkhozes in Raplaskiy Rayon was 5.4 kilograms (-2.6 kilograms).

The December milk yields and the average daily milk yields for the first 10 days in January at the Vinni and Pydrangu sovkhozes and the Vyayke-Maar'ya, Layuze and Paala kolkhozes and at many other farms amounted to 10-14 kilograms. At the same time, these indicators at the Pala Kolkhoz in Yygevaskiy Rayon, at the Alatskivi, imeni Pyalson and Viytna sovkhozes and at some other farms amounted to only 4.5-5 kilograms. The leaders of farms, party organizations, rayon agroindustrial associations and the republic's Ministry of Agriculture must exercise special control over the organization of work at the remaining kolkhozes and sovkhozes.

On 1 January, the amount of feed per standard unit of livestock was greater than 1 year ago only in Pylvaskiy Rayon. In Paydeskiy, Khar'yuskiy, Rakvereskiy, Raplaskiy and Vil'yandiskiy Rayons, the feed supplies amounted to only 56-68 percent of the volume for the previous year. The present tasks for the production and procurement of animal husbandry products are very tense and we must obtain our principal increases in output during the second six-month period. And this imposes very high requirements upon each farm. In particular, a decision must be made now with regard to how many swine must be sold prior to the end of the year.

Production conditions are extremely difficult on the farms at the present time and thus considerable importance is attached to ensuring that the work is organized in an efficient manner in all areas. The successful carrying out of the livestock wintering program is equally as important as the harvest operations carried out last autumn. All reserves must be placed in operation. This requirement was handed down during the November (1981) Plenum of the CC CPSU.

The center of gravity of the agricultural work is presently out on the farms and yet the agricultural workers have many other concerns. The task of preparing the equipment for spring must be completed in good time, special attention must be given to its quality and the seed must be improved to the required condition, especially at kolkhozes and sovkhozes in Raplaskiy, Khiyumaaskiy, Khar'yuskiy and Pyarnuskiy Rayons. A great amount of concern is being displayed for the seed potatoes at the present time.

Last year was a difficult one for the farm and field workers. But instead of pessimism, it served to instill in their hearts the firm conviction that despite all of the adversities they will achieve in an honorable manner the goals of the five-year plan, as outlined by the party.

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LIVESTOCK

RABBIT RAISING ADVANCED

Augmenting Meat Supply in Kirghiz SSR

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 12, Dec 81 pp 26-27

/Article by Yu. Romanenko, state inspector of USSR Ministry of Procurements: "New Functions of Society of Rabbit Breeders"/

/Text/ Rabbit breeding is playing an important role in increasing the procurements of dietetic meat and in obtaining valuable fur raw materials.

The SSR is constantly fulfilling its tasks for the procurement of rabbit meat and pelts. During the years of the Tenth Five-Year Plan, from 1975 to 1980, the production of rabbit meat (in live weight) at all categories of farms increased by 1,188 tons, or by 163 percent. Accordingly, meat procurements during this period also increased. In other words, almost 500 more kilograms of meat were produced per 1,000 residents than the figure for the country as a whole. Rabbit meat procurements for the republic on the whole amounted to 14 percent of the overall meat procurements from the population.

The successes achieved in the branch were mainly the result of constant assistance being furnished by the republic's Council of Ministers, the state procurement inspections and procurement and agricultural organizations. A great amount of attention was concentrated on the development of rabbit breeding on the private plots of kolkhoz members and manual and office workers. Such a program makes it possible, in the absence of considerable material expenditures, to increase sharply the production of rabbit meat and fur raw materials for industry. In addition, considerable use is made in private plot rabbit breeding of feed which quite often is not employed on a public farm, for example the vegetation found along the edges of roads, in drainage ditches, irrigation ditches and forest plantings and also rameal feed and food scraps.

Success was achieved in this work mainly owing to the fact that the republic's society of rabbit breeders was granted the legal and financial rights of a procurement organization. Consumer cooperation, which earlier carried out rabbit procurements among the population, did not always organize the acceptance of the products in all areas. In carrying out the procurement plans for many types of agricultural products and raw materials, the consumer cooperation workers were unable to devote the required amount of attention to this type of procurement. Thus, the rounds were not made of all of the populated points and, as a result, many of the rabbit breeders were unable to sell their surplus rabbit husbandry products.

Taking these shortcomings into account, the government of the republic entrusted the procurement of rabbits to the meat combines, with the contractor of the latter being the republic's society of rabbit breeders. The society procures rabbits from the population and in conformity with the contracts and schedules delivers them to the meat combines.

In accordance with the contract, a rabbit breeder is responsible for selling, with a breakdown by quarters, a definite number of the rabbits available on his private plot. In addition, he must abide by all of the required zootechnical rules and observe the requirements of the State Standards with regard to the slaughtering of the rabbits and the initial processing of the pelts. In addition, a rabbit breeder is obligated to sell to the state, and not at the market, all products obtained over and above the norm indicated in the contract.

In conformity with the contracts, the society ensures the timely sale of the rabbit meat and pelts and the payments for them, it carries out counter sales of concentrated feed, it provides assistance in acquiring the construction materials required for rabbit warrens and it sells pedigree young stock.

Entries are made in the society's journals regarding the number of rabbits and the schedules for preparing them for sale. In accordance with this data, a procurement specialist makes the rounds of the population in a motor vehicle belonging to the society for the purpose of accepting rabbits according to quality and delivering them to a meat combine.

There is still another important measure for promoting the breeding of rabbits on the private plots of the population -- it is that of supplying the rabbit breeders with feed. Whereas in other union republics the feed is sold only according to the state retail price of 18-20 kopecks per kilogram, in Kirgizia the rabbit breeders obtain this feed at the wholesale price -- 12 kopecks per kilogram. This serves as an additional incentive for the rabbit breeders.

Special importance is attached to ensuring that concentrated feed is made available directly to the republic's society of rabbit breeders and delivered to its storehouses. Norms have also been established for the sale of mixed feed: for 1 kilogram of rabbits (in live weight) sold to the state, a member of the society is entitled to purchase 4 kilograms of concentrated feed and also 2 kilograms per ruble of pelts sold.

But the population is being attracted to rabbit breeding not only on the basis of cheap feed being made available or the acceptance of surplus products being organized in an efficient manner. The republic and rayon societies of rabbit breeders have created the conditions required for a constant exchange of experience and this is promoting the introduction of leading methods into rabbit breeding operations. Towards this end, special facilities have been made available in the rayons, attached as a rule to offices of the societies. Their tables of organization include specialists who provide zootechnical and veterinary services for the animals on the plots of the population.

With regard to improving the pedigree structure of the animals, great importance is attached to the delivery and distribution among amateur rabbit breeders of some of the more valuable and highly productive strains of animals, obtained from the country's best breeding farms. Thus, in early 1981 alone, the society distributed among the population approximately 2,000 rabbits of the White Giant, Chinchilla and Black-Brown strains, obtained from the Biryulinskiy zverosovkhoz /fur-bearing animal sovkhoz/ in the Tatarskaya ASSR.

Pedigree rabbits are obtained not only from kolkhoz and sovkhoz farms but also from the best plots of the population. Thus, acting upon the initiative of the republic society, farms have been singled out in each rayon -- reproduction farms where pedigree rabbits are concentrated. The society's specialists carry out quality appraisals at these farms.

Only animals which have been classified elite or first class are distributed. This makes it possible for novice rabbit breeders to obtain better quality products, to increase their yield and to raise the fruitfulness of their rabbits. In addition, mating stations have been organized in many of the society's rayons, with highly productive animals being concentrated at these stations. Any rabbit breeder can obtain young stock from pure-bred rabbits.

One of the most important tasks of the republic and rayon societies of rabbit breeders is that of carrying out explanatory work among those desiring to breed rabbits. The rayon societies publicize the branch and inform the population regarding the peculiarities of breeding rabbits on private plots. Administrative members of the societies, specialists and experienced rabbit breeders hold discussions during rural gatherings and speak out over the local radio and in the press. The societies publish placards, brochures and booklets. As a rule, each rabbit breeder is a member of a society and is obligated, over the course of a year's time, to attract no less than five individuals to participating in rabbit breeding operations.

Special importance is attached throughout the republic to organizing and conducting annual rabbit exhibits in the various rayons, during which the best animals are displayed and experience is exchanged in the methods employed for raising them. As a rule, these exhibits are organized by the societies, with the participation of the local party and soviet organs, state inspections for procurements and the quality of the agricultural products and consumer cooperation. In the interest of attracting more people to the exhibits, they are conducted at markets, in stadiums, parks and in other areas frequently visited by the residents.

The schedules for holding these exhibits are published in advance, with use being made of the radio, press and other means of information. Those participating in the exhibits deliver their rabbits to the site, where they are evaluated by a committee of experts.

A great amount of attention is being given to establishing special information stands for displaying the achievements of leading rabbit breeders, including their portraits. The methods employed in the breeding of rabbits are described here in an intelligent and brief manner and information is also provided on the optimum plans for the cages in which the rabbits are maintained, on forage and inedible plants and on the products made from rabbit pelts and down.

Special literature on pedigree rabbits can be obtained at these exhibits. Because of the large number of rabbit breeders attending these exhibits, meetings can be held for the purpose of discussing breeding problems and also for summarizing the results of the competition for the "Best Rabbit Breeder."

An important stimulus for increasing the sale of rabbits and fur raw materials to the state -- the annual competitions for the "Best Rabbit Breeder," the conditions of which are approved by the rayon executive committee. The principal requirements of the rayon competition for rabbit breeder -- member of the society: maintain a farm in exemplary condition, conform to all of the zootechnical and veterinary rules, share his experience in the press and over the radio and sell to the state no less than 1,500 kilograms of meat from 15 does. The winners of the competition are awarded diplomas, with the first place winner receiving a Zhiguli automobile for a cash payment, second place -- a Zaporozhets automobile or a Ural motorcycle and third place -- carpet items.

By participating in competitions, the rabbit breeders improve their expertise and with each passing year they increase their sale of rabbit husbandry products to the state. For example, leading rabbit breeders of the Moscow society such as V.F. Lamashev, N.A. Krasnoborodkin and V.P. Podbereznyy sell more than 1,400 kilograms of dietetic meat to the state each year. During the years of the Tenth Five-Year Plan, V.K. Reptiy, a rabbit breeder of the Kalininskiy Rayon society, sold 7,202 kilograms of rabbit meat to the state.

The work carried out by the society would be impossible in the absence of an appropriate logistical base and monetary funds. The republic society of rabbit growers receives 5 percent of the value of the products sold to procurement organizations by members of the society and also 6.1 percent of their value as contractor for the meat combines. These funds are used for maintaining the system of specialists, instructors, accountants and other workers and for carrying out organizational measures aimed at developing rabbit husbandry and rabbit procurements and for creating the logistical base. At the present time, offices, housing for the rabbit breeders, storehouse facilities, receiving points, garages and workshops have been built for almost all of the rayon societies. The logistical base of the Kirghiz Republic Society of Rabbit Breeders is presently expressed in the form of a balance value of 385,000 rubles, of which amount the buildings, receiving points, storehouse facilities and garages constitute 230,000 rubles, 63 motor vehicles of various types -- 125,000 rubles and other items of equipment -- 30,000 rubles.

The well organized work of the societies and the assistance being furnished to them in the breeding of rabbits and in marketing the products are promoting an increase in the number of rabbit breeders. Compared to 1976 when the republic society numbered 5,148 members, by 1981 this number had increased to 10,400. The republic society presently includes three oblast, 32 municipal and rayon and 20 rural societies of rabbit breeders.

It bears mentioning that some societies have achieved considerable success in the production and sale of surplus rabbits to the state. Thus the Moscow Rayon Society of Rabbit Breeders, headed by V.F. Lamashev, one of the best chairmen, in 1980 sold 2,640 kilograms of rabbit meat for every 1,000 of the rayon's residents. This was the highest indicator in the Kirghiz Republic.

The Alamedinskiy Rayon Society of Rabbit Breeders accounts for the largest proportion of the republic's rabbit procurements. Each year it sells 350-400 tons of rabbit meat to the state, or 46 percent of the overall meat procurements from the population.

A great amount of work is also being carried out by the Issyk-Kul'skaya Oblast Society of Rabbit Breeders, which is under the expert direction of V.N. Pryadko, an experienced and work-loving individual. Each year this organization increases its production and sale of rabbits to the state and copes successfully with its planned tasks.

In 1981 the republic's rabbit breeders outlined great plans for increasing the sale of rabbits to the procurement organizations. They undertook the obligation of raising 1.15 million rabbits on the private plots, with 770,000 head to be sold to the state at a weight of 2,200 tons, or 15 percent more than the 1980 plan. In addition, they planned to attract no less than 2,500 novice rabbit breeders into the rayon, municipal and rural societies, organize the importing of pedigree rabbits and distribute 1,600-2,000 head among the population.

Successful operational experience in the development of rabbit husbandry in the Kirghiz SSR reveals that this branch can serve to augment considerably the country's meat resources.

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Kazakh Rabbit Breeding Underdeveloped

Moscow SEL'SKAYA ZHIZN' in Russian 20 Jan 82 p 1

/Article by V. Krinitskiy, Kazakh SSR: "Standing in Place"/

/Text/ According to documents of the Ministry of Agriculture for the Kazakh SSR, the rabbit farm of the Progress Sovkhoz, the only such farm in Alma-Atinskaya Oblast, is shown as a typical farm.

"Certainly, the facilities were built according to a standard plan", agreed the head of the farm, zootechnician B.V Tisher, "but the equipment -- where did they obtain it from?"

In December 1978, the construction of the farm was completed at a cost to the sovkhoz of almost 1 million rubles. And 1,200 does and 220 bucks of the highly productive Soviet Chinchilla strain of rabbits were procured from the Anisovskiy zverosovkhoz /fur-bearing animal sovkhoz/ in Saratovskaya Oblast. It was at this time that the equipment was discovered to be obsolete.

All attempts to modernize the farm were in vain. B.V. Tisher made several visits to Rodniki, the location of an experimental planning-design bureau with an experimental-production enterprise of the Scientific Research Institute of Fur Farming and Rabbit Husbandry, subordinate to the RSFSR Zveroprom /All-Russian Production-Scientific Association of the Fur Farming Industry/. Extremely successful designs have been created here for float-type watering bowls, bunker self-feeders, field wagons for transporting feed and rabbits. He succeeded in obtaining one field wagon and four feeders -- allocated for the most part for "visual propaganda" purposes. They did not even supply the designs. Rather, they explained that they were acting upon a strict instruction which held that they were to be supplied to farms in the Russian Federation. We addressed an official request to the Production-Scientific Association for Fur Farming of RSFSR Zveroprom. Subsequently, an official reply was received from the deputy chief: "Owing to a lack of funds, it is not possible to make the above-mentioned equipment available." Short and sweet. There was nobody higher up to turn to, since the reply contained a reference to Order No 1100 of the RSFSR Ministry of Agriculture and the all-union organization which had the funds but did not distribute them among the republics.

On one occasion, the cover of the journal KROLIKOVODSTVO I ZVEROVODSTVO /Rabbit Husbandry and Fur Farming/ contained the following advertisement: "Set of OKF-1 rabbit warren equipment can be ordered at rayon production associations of Goskomsel'khoztekhnika." Bernard Wilhelm Tisher proceeded post-haste to the sovkhoz director A.A. Shelepov. They immediately prepared a request and sent it to the Dzhambul inter-rayon association of GKST. Nine months have elapsed and they are still awaiting a reply.

Since the day the farm first entered operations, N.K. Pozdnyakov has served as an operator. In 1979, Nadezhda Konstantinovna obtained 3,442 young rabbits which produced 4.3 tons of weight increase. Subsequently, the indicators were even higher: 3,600 young rabbits and 7.6 tons of weight increase. Fine work is also being performed by her apprentices Klavdiya Kvak, Nadezhda Bychinskaya and Mariya Rodionova. Machine operator Mikhail Stepanovich Chumanov applies his heart and soul to his work. Generally speaking, the collective is accomplishing a great deal towards increasing both the number of rabbits and their productivity. However, the yield of young stock is low -- no more than 16 young rabbits from each doe and the production of meat fluctuates sharply from year to year: in 1979 the sovkhoz shipped 15 tons of product to the meat combine, in 1980 -- 30 and in 1981 -- approximately 17 tons of product.

The head of the farm is convinced that these indicators could be considerably higher. Many young rabbits perish owing to defective equipment. Of 10,000 head of young rabbits obtained through breeding work, only one half remained for meat purposes.

Despite the high procurement prices for rabbit husbandry products, this is the fourth year that the farm has caused the sovkhoz to sustain losses. An inefficient production technology, high labor expenditures, poor feed, unproductive use of such feed, losses in young stock -- these are all factors which affect the production costs. Each kilogram of weight increase in the animals costs from 7 to 8 rubles. The sovkhoz compensates to some degree for its losses by selling pedigree animals to other farms, organizations and amateur rabbit breeders. But on the whole, this falls short of saving the situation.

The development of amateur rabbit breeding is deserving of mention. The society of amateur rabbit breeders created recently in Kazakhstan numbers some 6,236 members. Working on the basis of contracts with consumer cooperation, they furnished more than 170 tons of meat in 1981 -- only one third less than the amount supplied annually by the sovkhozes, and 550,000 pelts -- almost five times more than the amount supplied to the state by the republic's specialized farms. At the present time, there are 21,800 does on the private plots. This also is almost one half as many as those being maintained at sovkhozes. However, changes for the worse are taking place in amateur rabbit breeding. Compared to 1977, the number of suppliers of rabbit husbandry products has decreased by 2,564 individuals throughout the republic. According to the head of the Department of Procurements of

Kazpotrebsoyuz /Kazakhstan Union of Consumers' Societies/, V. R. Domrachev, this is the result of high costs for the mixed feed and low procurement prices for the fur. The raising of rabbits on private plots is becoming unprofitable. The procurement organizations are paying only 2-3 rubles for rabbit pelts and at the same time they do not guarantee that feed will be made available in a timely manner. The majority of the amateur breeders raise rabbits only for themselves and large numbers of them are undergoing "retraining" and breeding coypus. A breeder can obtain 50 rubles for a coypu pelt and the raising costs are much less than those for rabbits.

An amateur breeder is inclined to follow the path that is most profitable. Whatever is demanded of him. And certain officials, namely the leaders of the Eastern Kazakhstan oblsel'khozupravleniye /oblast agricultural administration/, should have been queried regarding such independent activity. It was with their knowledge that the Cheremshanskiy Sovkhoz, which built a large rabbit breeding complex, soon thereafter eliminated its rabbits and created a wild-animal rearing farm. Certainly, more profit is to be realized from selling the fur of especially valuable animals, but who then is left to fulfill the state plan for the sale of dietetic meat.

The experience of the country's rabbit husbandry farms testifies to the great potential and prospects of this branch of animal husbandry. In 1977 the republic's Ministry of Agriculture published an order which assigned clear tasks to the oblast agricultural administrations with regard to the creation of rabbit husbandry farms and the production and sale to the state of dietetic meat and fur. Almost 5 years have elapsed and what has been done? Based upon information available in the ministry, the following facilities have been created in the republic: one rabbit husbandry complex, 10 new farms; two old farms were modernized. Four farms are breeding rabbits in suitable facilities. The number of rabbits in the public sector has increased overall by 41,000 and by 1 October 1981 the total number was 93,000 head. In information presented to the Council of Ministers for the Kazakh SSR on 10 January 1981, the farm of the Progress Sovkhoz was included among the three best rabbit husbandry farms. How well then are the remaining farms operating? By way of replying to this question, I will cite figures taken from this same document. In 1980, each of the republic's 17 rabbit husbandry farms fulfilled its production plan by 17 percent and sold an average of approximately 17 tons of meat to the state.

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AGRO-ECONOMICS AND ORGANIZATION

DEVELOPMENTAL PROJECTIONS FOR AGRICULTURE IN NEW FIVE-YEAR PLAN

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 12, Dec 81 pp 3-10

/Article: "Stages of the Five-Year Plan"/

/Text/ The decisions handed down during the 26th CPSU Congress, which approved the Basic Directions for the Social and Economic Development of the USSR During the 1981-1985 Period and for the Period Up To 1990, tasked the agroindustrial complex with providing reliable support for the country in the form of food goods and agricultural raw materials. The November (1981) Plenum of the CC CPSU approved and the Sixth Session of the USSR Supreme Soviet, of the tenth convocation, ratified the plan for the economic and social development of the USSR during the Eleventh Five-Year Plan.

One of the chief factors characterizing the plan for developing agriculture and the entire agroindustrial complex -- high rates of growth for production based upon more efficient use of the potential created, further strengthening of the logistical base and the extensive introduction of scientific achievements and leading experience into production operations. In the plan for the Eleventh Five-Year Plan, certain problems were developed in detail for the very first time -- the proportional development of all branches of the APK /agroindustrial complex/ and improvements in the preservation of agricultural products during the course of their being shipped to the consumer. A component part of the plan is the development of indicators for the food program, the goal of which is to bring together all elements not only of the APK but also of other branches of the country's economy and to improve the supply of food goods for the population. Here we have in mind the need for each kolkhoz and sovkhoz making a maximum contribution towards the production of agricultural products, increasing the role played by the procurement, processing and trade organizations in the rational use of these products and delivering them to the consumer and the active participation of the industrial ministries and departments in supplying the branches of the APK with the required resources and equipment.

In the plan for the Eleventh Five-Year Plan, emphasis is placed upon the party's long-term program for further strengthening the logistical base for agriculture and the other branches of the APK. For agricultural development alone and in connection with the entire complex of operations to be carried out, approximately 190 billion rubles worth of capital investments will be allocated, compared to only 171 billion rubles during the Tenth Five-Year Plan. These funds will be used for continuing the large scale work associated with land reclamation, mechanization and the use of chemical processes, required for ensuring the intensive development of agricultural production.

Agriculture is a central element of the entire APK and success in solving the country's food problem will be greatly dependent upon further agricultural development.

The logistical resources allocated for agricultural development have made it possible to plan high rates of development for farming and animal husbandry in the plan for the Eleventh Five-Year Plan.

A most important task of farming is that of achieving further growth in the production of grain, feed and other products based upon the complete utilization of all growth factors and particularly technical equipment, the extensive use of fertilizers and improvements in the culture of farming.

The specific production volumes for field crop husbandry products, as determined for the five-year plan, are reflected in the data furnished in Table 1.

Table 1

Production of Field Crop Husbandry Products
(annual averages, millions of tons)

	1971-1975	1976-1980	1981-1985 (est.)	Growth in %	
				1976-1980 compared to 1971-1975	1981-1985 compared to 1976-1980
Grain	181.6	205	239	113	117
Sugar beets	76.0	88.4	100	116	113
Raw cotton	7.67	8.93	9.2	116	103
Flax fibre, thousands of tons	456	394	501	87	127
Sunflowers	5.97	5.32	6.68	89	126
Potatoes	89.8	82.6	89.1	92	108
Vegetables	23.0	26.0	29.3	113	113
Fruits and berries	8.01	9.59	11.3	120	118
Grapes	4.37	5.6	7.6	128	136
Procurements of coarse and succulent feed in the public sector, thousands of tons of feed units	95,245	112,791	137,417	118	122

Growth in the production of grain and other farming products, in conformity with the decisions handed down during the 26th CPSU Congress, will be achieved in all of the union republics. The increase in the average annual production of grain during the Eleventh Five-Year Plan will amount to 17 percent, or close to the maximum increase obtained during the 1966-1970 period. Moreover, grain production is expected to develop at higher rates not only in the principal grain production regions (RSFSR, Ukraine and Kazakhstan) but also in the Baltic republics, Belorussia and Central Asia. Only in the Trans-Caucasus region are more moderate rates of grain production called for, the result of farm specialization and the need for increasing the production of difficult to transport feed in order to accelerate the rates of development for animal husbandry.

During the Eleventh Five-Year Plan, substantial changes are called for in the production structure for grain crops. First of all, priority will be given to groat crops, rye, corn and pulse crops. The planned changes in the production structure for grain crops are apparent in the data furnished in Table 2.

Table 2

Grain Crop Production

	Gross Yield, millions of tons		1985 in % of 1976-1980
	1976-1980 (annual average)	1985 (estimate)	
Grain crops, total	205	245	119
including			
Wheat	99.7	100	100
Rye	10.8	15.7	145
Rice	2.3	3.1	134
Millet	2.2	3.6	163
Buckwheat	0.94	1.6	170
Barley, oats	72.1	87	120
Pulse crops	6.9	14	202
Corn	9.6	19	196

During the course of maintaining overall wheat production, the commodity production of wheat will be concentrated in the Volga regions, the southern Urals and the steppe regions of Siberia and Kazakhstan and the production of durum wheat -- in the Bashkirskaya ASSR, Saratovskaya, Kuybyshevskaya, Orenburgskaya, Chelyabinskaya, Omskaya and Novosibirskaya Oblasts and in northern Kazakhstan.

Growth in the production of groat crops will be achieved mainly on existing sowing areas by means of improved cropping power. With regard to an increase in the production of pulse crops, this will be achieved both through improved cropping power and by expanding the sowing areas, with the principal portion of the increase in pulse crops coming from an increase in the sowings and cropping power of peas.

Special importance is attached to the growing of corn, which in terms of its potential cropping power and feed qualities, surpasses the other grain crops. The sowing areas for this crop will be expanded, including those on irrigated land. An industrial technology will be employed on all of the grain corn plantings and this will make it possible, based upon the experience of many farms, to obtain a considerable increase in yield.

The production of sugar beets is expected to increase by 13 percent during the five-year plan. The highest rates for such production will take place in the RSFSR (18 percent), the Moldavian SSR (32 percent) and in a number of other union republics. The Kirghiz SSR has been declared to be a zone for the production of single-sprout sugar beet seed, mainly for farms in the RSFSR.

In the case of cotton production, rapid rates are expected for intensifying the production of raw cotton of fine-fibred varieties. Compared to the volumes for such production during the Tenth Five-Year Plan, an increase of 44 percent is expected. Moreover, the Uzbek SSR will account for almost two thirds of the overall raw cotton production, of which amount 40 percent will be obtained from fine-fibred varieties. The cotton growers of Tajikistan will produce an annual average of 320,000 tons of fine-fibred cotton and the cotton growers of Turkmenia -- approximately 300,000 tons.

High rates of growth for the production of flax fibre have also been established. The fulfillment of the tasks for increasing the production and procurements of this product will be greatly dependent upon development of the capabilities of enterprises of the USSR Ministry of the Light Industry, for the processing of the flax products. This will enable the flax production farms to increase their volumes of deliveries in the form of straw.

Intensive tasks have been established for the Eleventh Five-Year Plan in connection with the production and procurement volumes for sunflowers. In this regard, a considerable amount of attention has been given to strengthening the logistical base, introducing progressive technologies for the cultivation of sunflowers, making extensive use of material incentives and to organizing seed production operations.

The production of hybrid sunflower seed is being organized in the Moldavian SSR. Farms in the Ukraine and the RSFSR will commence receiving seed from Moldavia prior to the end of the Eleventh Five-Year Plan. In addition, the plans call for the production of hybrid sunflower seed to be organized in other republics, so as to ensure that sunflower cultivation will be placed on a firm foundation in the principal zones.

The highest rates of growth are called for in the case of fruit, vegetable and grape production. The potential is available for achieving these rates. In a large number of union republics, the measures for achieving these rates have become a component part of the plans that have been developed and adopted, particularly in connection with the development of fruit production in the Moldavian SSR, citrus fruit production in the Georgian SSR and viniculture in the Azerbaijan SSR, the RSFSR and in the Ukraine.

During the Eleventh Five-Year Plan, a great amount of attention will be given to reducing losses in fruit and vegetable products and potatoes. Towards this end, a program of measures has been developed and will be implemented aimed at strengthening the base for the storage and processing of all types of perishable products. Approximately 4.8 billion rubles worth of state capital investments will be made available for this purpose, or 2 billion more rubles than were used for this purpose during the Tenth Five-Year Plan. Merely by reducing losses in the country's commodity resources, an annual savings of more than 1 million tons of vegetables and approximately 1.5 million tons of potatoes will be realized.

Taking into account the logistical resources allocated up until 1985, the plans call for a reduction of from 30 to 50 percent in permissible losses in the principal farming products. The overall economic effect realized from the carrying out of measures aimed at reducing losses in agricultural products will amount to more than 2 billion rubles in agriculture prior to the end of the Eleventh Five-Year Plan.

A considerable increase in the production of fruit, vegetables and potatoes is called for through the accelerated development of private and collective horticulture and gardening. Towards this end, as is well known, the CC CPSU and the Council of Ministers adopted a special decree.

The plan calls for special attention to be given to feed production. In speaking before a meeting held in the city of Tbilisi, dedicated to the 60th anniversary of the Georgian SSR, Comrade L.I. Brezhnev referred to the Eleventh Five-Year Plan as a five-year plan for feed. Unless solutions are found for the problems associated with strengthening the feed base, it will be impossible to develop animal husbandry. Approximately 27 billion rubles worth of capital investments, or 1.7 times more than the amount employed during the Tenth Five-Year Plan, are being made available for developing the logistical base for feed production and feed preparation. Feed production is being equipped with highly productive equipment, particularly self-propelled machines, the deliveries of which to agriculture are being increased by more than threefold.

During the years of the Eleventh Five-Year Plan, radical improvements are to be carried out on 12.4 million hectares of haying and pasture land, more than 1 million hectares of irrigated haying land are to be created, watering is to be provided for 27.3 million hectares of pasture land and modernization work is to be carried out on aquicultural installations for 42 million hectares of watered pastures. Considerable attention is being given to improving the structure of the sowing areas for forage crops and the proportion of perennial grasses is being increased. In order to supply 4,000 tons of alfalfa seed for farms in the RSFSR, Belorussia and the Baltic republics, the production of such seed is being increased by eight times in the Kirghiz SSR.

In the future, a branch and specialized character will be attached to feed production operations. As a result of implementation of the measures called for, the production of coarse and succulent feed must be increased by 22 percent and reach approximately 138 million tons of feed units. Overall feed expenditures per standard head of cattle will be raised to 31 quintals of feed units, or 4 quintals more than in 1980.

Special attention is being given to the production of feed protein. According to estimates, its resources will increase by 9 million tons, or by more than 20 percent compared to 1980.

But this amount will still be insufficient for satisfying the needs of animal husbandry. The kolkhozes and sovkhozes must carry out a great amount of work in connection with improving the quality of the feed being procured, improving the technologies for the storage and preservation of feed and ensuring more complete use of the animal protein being lost at the present time during the processing of slaughtered animals.

During the five-year plan, substantial changes are called for in the structure of the feed being procured. Priority is being given first of all to hay, the procurement volumes of which during the Eleventh Five-Year Plan must increase by 35 percent above the figures for the Tenth Five-Year Plan and to root crops, the volumes of which for this type of feed will increase by a factor of 1.5. An increase must take place in the proportion of high protein components in concentrated feeds; this can be accomplished through the use of peas, soybeans and other plant feeds.

One of the principal tasks of feed production during the Eleventh Five-Year Plan is that of raising the quality of all feed being procured. Towards this end, greater use will be made of progressive technologies in feed production. The preparation of hay using the method of forced ventilation will be increased by almost twofold during the five-year period, pressed hay procurements -- by threefold and the chemical preservation of green feed -- by a factor of 2.5.

A principal trend in farming work is that of raising the cropping power of all agricultural crops. Towards this end, measures must be implemented during the current five-year plan aimed at raising the fertility of soils and improving arable and feed lands. The overall area of agricultural lands will not change substantially, however the area of intensively used land will increase from 250 to 264 million hectares and irrigated land -- from 17.2 to 20.8 million hectares. Compared to the 1976-1980 period, lime will be applied to 10 million more hectares of land. The area of clean fallow must be increased to 19 million hectares, compared to only 13.8 million hectares in 1980. This will make it possible to introduce scientifically sound crop rotation plans into operations in all areas. The plans call for a 31 percent increase in the amount of non-mouldboard soil cultivation, with the overall area of such cultivation reaching more than 52 million hectares.

The implementation of the measures planned, in addition to raising the overall culture of farming, improving seed production and reducing losses will make it possible to raise the cropping power of the principal agricultural crops (see Table 3).

Table 3

Cropping Power of Agricultural Crops
(quintals per hectare)

	Actual Cropping Power		Estimated for 1981-1985
	1971-1975	1976-1980	
Grain crops	14.7	16.0	18.7
Flax fibre	3.7	3.4	4.5
Sugar beets	217	237	272
Sunflowers	13.2	11.8	14.7
Potatoes	113	117	131
Vegetables	138	153	169

The 26th CPSU Congress declared animal husbandry to be a very important front for work in the rural areas. In the basic directions for the economic and social development of the USSR, approved by the congress, the plans call for an average annual production of meat in dressed weight of 17-17.5 million tons, milk -- 97-99 million tons, eggs -- not less than 72 billion and wool -- 470,000-480,000 tons.

Great tasks have been assigned to the country's animal husbandrymen. Compared to the Tenth Five-Year Plan, during the Eleventh Five-Year Plan they must achieve higher absolute increases in almost all types of animal husbandry products (see Table 4).

The chief trends in the development of animal husbandry, as mentioned during the congress -- a maximum increase in the yield of products obtained from each head of livestock and improvements in reproduction of the herd based upon a raised feeding level.

Table 4

Production of Animal Husbandry Products

	Average Annual Production		
	1971-1975	1976-1980	1981-1985 (estimated)
Meat in dressed bulk, millions of tons	14.0	14.8	17.1
Milk, millions of tons	87.4	92.6	98.1
Eggs, billions of units	51.4	63.1	72.1
Wool, thousands of tons	425	441	474

Overall production realized from the raising of livestock and poultry at all categories of farms, for each year of the five-year plan, must increase by no less than 12 percent and in the public sector -- by 18 percent. Thus, by 1985 it will be necessary to obtain 119 kilograms of product, compared to only 102 kilograms in 1980, for each head of large-horned cattle throughout the USSR on the whole. The dairy productivity of cows during the five-year period must be raised by 327 kilograms, the clipping of wool from one sheep -- by 0.3 kilograms and the egg production of laying hens -- by 7-8 eggs annually.

The plans call for improved productivity to account for 77-78 percent of the overall increase in milk, 70-77 percent of the increase in meat, including large-horned cattle -- 68 percent, mutton -- 71 and pork -- 77 percent.

In addition to improvements in feeding, increases will be achieved in the productivity of livestock and poultry as a result of the extensive introduction of crossbreeding operations. The plan for the Eleventh Five-Year Plan calls for an expansion in the progressive technologies for livestock maintenance and for the production of animal husbandry products, the breeding of livestock strains having high productivities and the introduction of a flow-line departmental system for labor organization in animal husbandry. All of these measures will promote reductions in expenditures for the production of a unit of animal husbandry product and also more efficient feed utilization. By 1985, the plans call for overall feed expenditures for obtaining 1 quintal of product from the raising of large-horned cattle to be lowered by 30 percent, 1 quintal of product from the raising of swine -- 12, 1 quintal of milk -- 15 and 100 eggs -- by almost 22 percent.

A chief trend in the development of animal husbandry is that of further intensification. However, in addition to growth in the intensive factors for individual regions of the country, we must not negate the importance of growth in the numbers of livestock and poultry. It will take place mainly on farms having a low livestock density, in the Central Asian and Trans-Caucasus republics and in a number of other regions throughout the country.

According to estimates, by 1985 the number of large-horned cattle will increase roughly by 2 million head and reach 117-118 million head, while the number of swine will stabilize at the level of 74-75 million head.

The plans call for animal husbandry to develop at a rapid rate in all of the union republics, with the highest rates of development taking place in the Uzbek SSR, where the increase in meat will be 70 percent above the level for 1980, milk -- 28 and eggs -- 14 percent. The animal husbandrymen of Uzbekistan began the five-year plan with high rates of growth and with fulfillment of the five-year plan Uzbekistan will be transformed into a republic having highly developed animal husbandry operations and this will make it possible to improve the supply of fresh products for the population. High rates of growth have been established for meat and milk production in the Georgian SSR (increases of 26 and 13 percent respectively), Tajik SSR (23 and 12 percent) and Turkmen SSR (27 and 10 percent). Tense tasks have been established for the development of animal husbandry in the Russian Federation. By 1985, meat production in this republic must be raised by 22 percent above the level for 1980 and milk -- by 12 percent. In the future, animal husbandry will develop at a rapid rate in the Baltic republics, Belorussia and the Ukraine. Farms in the Estonian SSR are striving to raise the productivity of their cows to 4,000 kilograms by the end of the five-year plan and those in the Lithuanian SSR -- to 3,500 kilograms.

In 1985, for kolkhozes and sovkhozes throughout the country on the whole, the average live weight of large-horned cattle sold for meat purposes will be no less than 345 kilograms and on farms in the Estonian and Lithuanian SSR's -- 410 and 440 kilograms respectively. The livestock sold by farms in the Turkmen, Latvian and other republics will be in a high state of nutrition.

It is expected that the greatest amount of wool per sheep will be obtained on farms in the RSFSR (4 kilograms) and the highest egg production by laying hens -- on farms in the Estonian SSR (244 eggs annually).

During the Eleventh Five-Year Plan, animal husbandry will continue to be converted over to an industrial basis. Only in this manner will it be possible to ensure efficient fulfillment of the high tasks established by the 26th CPSU Congress for the development of animal husbandry.

In all of the union republics without exception, a need will exist for promoting the development of animal husbandry on the private plots. Towards this end, cooperation will be carried out on an extensive scale during the current five-year plan, in connection with ensuring that the owners of livestock are supplied with feed on a contractual basis by the kolkhozes and sovkhozes, with counter sales of mixed feed to the population being carried out.

Thus, in order to carry out the established tasks for developing animal husbandry, more complete use must be made of all available means and methods and the work being performed by the kolkhozes and sovkhozes must be further enlivened, especially with regard to increasing the production of feed and improving its quality.

A strong reserve for achieving further growth in agricultural production is that of improved use and greater expansion of the areas of reclaimed lands. Approximately 40.4 billion rubles of state capital investments and 0.6 billion rubles of kolkhoz funds will be made available during the 1981-1985 period for land reclamation and for the agricultural development of such land. This amounts to 19 percent more than the actual expenditures during the Tenth Five-Year Plan. These resources will be used for creating large irrigation systems and sovkhozes in the Volga region, the north Caucasus, the Ukraine, Uzbekistan, Tajikistan and in other union republics.

In connection with the exacerbation of social problems in the rural areas, the plan for the 1981-1985 period calls for considerable growth in capital investments in the non-productive sphere. More than 37 billion rubles are being allocated for the construction of housing, childrens' pre-school institutes and cultural and municipal-domestic installations. This figure is almost 40 percent more than the amount allocated during the Tenth Five-Year Plan.

It is anticipated that these funds will be used for placing in operation 121 million square meters of housing space and for increasing the introduction into operations of water supply lines, sewerage systems, gas pipe lines and so forth. During the Eleventh Five-Year Plan, the plans call for state capital investments to be used for the financing and construction of farm outbuildings required for operation of the private economy, at newly constructed homes.

In view of the need for implementing a complex of measures aimed at improving the preservation of agricultural products, considerable capital investments are being allocated for the construction of storehouses, vegetable and potato storehouses and fruit storehouses and also feed and mineral fertilizer. Compared to the Tenth Five-Year Plan, the capital investments for these purposes will be increased by a factor of 1.6.

Considerable resources are being employed for the mechanization of agricultural production. As a result, substantial changes will take place in the equipping of agricultural production. By 1985, the tractor pool in agriculture will number 2.9 million units and grain harvesting combines -- approximately 1 million. In 1985, one tractor will account for 80 hectares of arable land and one grain combine -- approximately 125 hectares of grain plantings. The power engineering capabilities of the rural areas will increase to 900 million horsepower and the power-worker ratio -- to 39 horsepower. By 1985, the electric power requirements of agriculture will have increased to 155-160 billion kilowatt hours. The total capability of tractor engines will increase by 15 percent and their average capability will increase to 95 horsepower. The average carrying capability of motor vehicles will be increased by 0.6 tons and reach 4.3 tons. The nomenclature of machines for the K-700 and T-150 tractors will be expanded.

The planned volumes of equipment deliveries to agriculture, in addition to measures for improving their use, are making it possible to mechanize completely, prior to the end of the five-year plan, the cultivation and harvesting of grain crops, sugar beets and flax and to raise the level of combine potato harvesting to 65 percent, vegetables -- to 50 percent, the all-round mechanization of work on large-horned cattle farms -- to 57 percent and on swine raising farms -- to 80 percent, or roughly 15 percent higher than the actual figure.

Prior to 1985, the five-year plan calls for agriculture to be supplied with mineral fertilizers in the volume of 115 million tons of standard mineral fertilizers, lime materials 73 million tons and plant protective agents -- 680,000 tons of standard units. The applications of organic fertilizers must be increased to 1-1.2 billion tons, or by almost 40 percent. Beyond any doubt, this will promote growth in the production of gross agricultural output. During the Eleventh Five-Year Plan, its average annual volume is expected to increase by 1.6 billion rubles and reach 140 billion rubles. The average annual gross output yield in the public economy, for every 100 hectares of agricultural land, must amount to 19,500 rubles, compared to only 16,900 rubles during the Tenth Five-Year Plan. Labor productivity is to be increased by 22 percent and wages for labor raised to 157 rubles per month, compared to 138 rubles in 1980, including up to 141 rubles at kolkhozes, compared to 116 rubles.

The increasing production volume for agricultural products will make it possible to raise the procurement volumes for such products. The plan calls for grain procurements for the USSR on the whole to be increased by 20 percent during the 1981-1985 period, livestock and poultry -- by 17, milk -- by 7 and wool -- by 6 percent. Increases will take place in the procurement volumes for other types of agricultural products. This raises very important tasks with regard to further development of the processing industry.

The plan calls for the additional construction and placing in operation of enterprises of the milling and mixed feed industry, sugar and cheese making plants, meat combines and other enterprises for the processing of animal husbandry products. This will make it possible, by 1985, to increase the production of food products obtained from agricultural output: the processing of potatoes by a factor of almost 2 compared to the 1980 level, the production of meat products -- by 27 percent, whole milk products -- by 12 and production of groat crops -- by 7 percent.

The successful solving of the tasks set forth in the five-year plan, for developing agriculture and other branches of the agroindustrial complex, will make it possible to improve the supply of urgently needed products for the population.

It is the responsibility of the agricultural workers to carry out active work aimed at implementing the tasks assigned by the highest forum of our government -- a session of the USSR Supreme Soviet. The plan has been adopted in the form of a law -- the task is now one of ensuring that it is implemented in an efficient manner.

During the November (1981) Plenum of the CC CPSU, Comrade L.I. Brezhnev noted that the planned tasks for the five-year plan conform for the most part to the aims of the 26th CPSU Congress. The chief task of the Eleventh Five-Year Plan is that of achieving further improvements in the welfare of the Soviet people based upon stable and consistent development of the national economy, accelerated scientific-technical progress, the conversion of the economy over to an intensive path of development, maximum economies in the use of all types of resources and improvements in the quality of the work being performed.

The means for solving this task have been clearly defined in the five-year plan and a course has been laid out for intensifying the country's economic potential and improving the efficiency of the national economy.

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IMPORTANCE OF SUBSIDIARY ENTERPRISES OF INDUSTRY CONSIDERED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 25 Dec 81 p 1

/Article by Yu. Azbukin: "Agricultural Department of an Enterprise"/

/Text/ The dinner break had arrived. Nobody was rushing to occupy a place in the dining hall line. Nobody was in a hurry. As always, everything was normal and in accord with the daily routine. The machines were turned off and hands were washed. We sat down at the tables in a leisurely manner. Some reflected upon whether they wished a full dinner or to order a la carte -- the difference was negligible and yet, as the saying goes, tastes differ. It is no exaggeration to say that at the Krasnyy Aksay much attention is given to the taste and opinion expressed by the working man. Here they hold very fast to the popular wisdom: you work as you eat. From the very beginning, commencing with his working assignment, the general director of the association, Mikhail Petrovich Boyko, had become aware of this truth.

This is why the agricultural department, headed by the Division of Personal Services, has been placed on the same footing with the production department. Here an individual is not bothered by the problem of where must he go, following his shift, in order to obtain the products required for supper or for the following day. The snack bars and a store located on the territory of the enterprise are at one's service. Semi-finished meat products, chickens, vegetables, fruit -- a very diverse assortment of goods. It is also possible to place orders in advance. And all of this is the responsiblity of the agricultural department. At the subsidiary farm it has 400 swine, a poultry factory for 22,000 broilers and a large-horned cattle farm. And what about vegetables and fruit? It obviously cannot meet its needs for these products using its own resources. But here they resorted to thrifty ingenuity. The association concluded direct contracts with nearby kolkhozes and sovkhozes. In addition to satisfying the current requirements throughout the summer season, these kolkhozes and sovkhozes also make arrangements for the holding of abundant fairs during the autumn.

Nor is such an understanding of the needs of the workers peculiar only to the administration and social organizations of Krasnyy Aksay. Roughly the same type of food service has been organized at the Pavlodar Tractor Plant, at Rostsel'mash /Rostov Agricultural Machinery Plant/ and at many other enterprises of Minsel'khozmash /Ministry of Tractor and Agricultural Machine Building/. And this is understandable. The party and government decided to enlist the aid of industrial collectives in solving the food problem. The enterprises can accomplish a great deal provided they introduce into operations the organizational ability inherent in industry, good worker initiative and technical experience. More specifically, we are speaking here about subsidiary farms. In discussing the food program, Leonid Il'ich Brezhnev, in a speech delivered before the November Plenum of the CC CPSU, emphasized: "We must make greater use of local food resources and also the potential offered by the subsidiary farms. We must support to the maximum possible degree initiative and enterprise in this work -- by the industrial enterprises and associations, kolkhozes and sovkhozes."

The requirements expressed by the general secretary must be carried out in a very strict manner. Today 42 plants have their own subsidiary farms. During the past 2 years, more than 2,000 tons of meat and tons of other agricultural products were produced here. Overall, considerable improvements have been realized in making food available to workers' dining halls, childrens' institutes and stores located at enterprises and in nearby microregions.

Subsidiary farms are being organized at the Lipetsk Tractor and the Tula Combine Plants, at the Orel Drive Gear Plant, the Samarkand Krasnyy Dvigatel' Plant, at the association's Volgogradskiy Tractor Plant and at other enterprises. The output production volumes for farming and animal husbandry are constantly being increased. Next year the branch's subsidiary farms will increase their production of meat in dressed weight by one and a half times and their production of milk, vegetables and other products -- by twofold and possibly threefold.

From a practical standpoint, how is this work being carried out? Everyone is aware that livestock and poultry require feed. With the aid of the oblast and republic party and soviet organs, the enterprises were provided with unused, long fallow and virgin land. This land was plowed up, sown and yields obtained. And not just forage crops, but vegetables as well.

For example, let us take the Taganrog Combine Plant. Its "food department" can compete against any leading kolkhozes or sovkhozes. The installation includes fattening complexes for 1,700 head of swine and 600 head of long-horned cattle and farms for almost 100,000 head of poultry. The efficient use of 2,000 hectares of land is making it possible for the enterprise to satisfy its own requirements for feed. And what results are being realized by this intensified "food department"? In 1980 the farm supplied the association's public catering system with more than 220 tons of pork and beef, in excess of 110 tons of poultry, 720 tons of vegetables and so forth. It is interesting to note that the production cost for 1 quintal of all types of meat does not exceed 120 rubles.

In conformity with the decree of the party and government entitled "Concerning the Subsidiary Farms of Enterprises, Organizations and Institutes," industrial enterprises are being supplied with equipment and fertilizers. The remainder is dependent upon local initiative and farm enterprise. Indeed, for the erection of appropriate agricultural buildings -- farms, storehouses, workshops -- Gosbank loans are being made available. But they are being issued not only on the basis of timely repayment of the loans, but also with the requirement that a report be submitted justifying the resources expended. Thus, commencing with the very first days, concern must be displayed for intensification of the farm.

One question is quite proper: where will the workers come from, who will operate the equipment and who will work out on the fields? Within the branch, the agricultural sector has become an organic component of industrial production. At the present time, each worker considers it his duty to work for a prescribed length of time in this sphere. Work schedules for the field and farms have been established at many of the enterprises. Obviously, on specialized tracts, for example in animal husbandry and poultry raising, there are permanent personnel who enjoy the same material benefits to which those working in the departments are entitled. The statutes employed at plants and associations also apply to them. In the case of construction materials, metal structures and various items of non-standard equipment, all such materials can be sent to the rural areas or manufactured for them on one condition: if you wish to have a highly productive farm, then a considerable increase must be achieved in food goods for the table -- greater thrift must be achieved in the use of logistical resources and internal reserves must be found.

The creation of agrarian complexes attached to industrial enterprises is of tremendous social importance. The initial results of their activities underscore the promising nature of the direction being followed. This trend is becoming an organic component of the food program, the development of which was called for during the 26th party congress. This is why the ministry has undertaken to coordinate and direct the development of the subsidiary farms on a branch scale and it has outlined the prospects for their formation and development.

The board of the ministry has studied thoroughly the potential of all-union industrial and production associations and enterprises for creating subsidiary farms, it has developed the direction to be followed for their specialization, logistical support and land usage and it has established a plan for the reproduction of livestock and poultry and for growing vegetable crops. The plans also call for a considerable expansion of the trade network for the sale of food products. The task has been assigned of increasing the sales of animal husbandry products, prior to the end of the five-year plan, to roughly one third of the centralized supply and at certain enterprises -- to one half. In addition, measures must be undertaken here aimed at ensuring a continuous and year-round supply of fresh vegetables for the collectives. Hot beds and hothouses have been created at the Chelyabinsk and Pavlodar tractor plants and at other enterprises. Their overall area will be increased to 20 hectares. Thus it will be possible during the winter to supply the plant dining halls with salads made from tomatoes, cucumbers and green onions.

But the conclusion must not be drawn from the above that all is going well or that there are no problems in the agrarian sectors of the branch's enterprises. The work is rather complicated: a requirement exists for eliminating the present psychology of some enterprise leaders, who are accustomed to delivering a plan at any price, with no concern being displayed for the social aspect of the work. There are problems which go beyond the limits of the department. We have in mind the fact that there are still many in the various areas who still do not recognize the importance of and vital need for subsidiary farms. How is this expressed? It is expressed first of all in the allocation of land areas. Under various pretexts, attempts are being made in the Chuvashskaya ASSR, Ryazanskaya Oblast and in a number of oblasts in the Ukraine, Moldavia and Belorussia, to avoid having to solve those problems associated with the allocation of land tracts. Some kolkhozes and sovkhozes are neither procuring their own feed nor making arrangements with the subsidiary farms of enterprises for feed procurements on a cooperative basis.

There are also other problems. It is practically impossible to obtain specialized transport vehicles, for example milk carts, refrigerators and so forth. And indeed quite often the products must be delivered to points located many dozens of kilometers from the subsidiary farms. This obviously constitutes food for thought by USSR Gosplan.

Today the subsidiary farms are in a sense no longer "subsidiary" in nature, but rather they have become a most important component part of the all-state food program. The degree of abundance found on the public dining tables is dependent upon the development and productivity of these farms. Accordingly, we must give attention to these farms at all levels -- from regional management to the higher planning organs.

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INTERSECTORIAL INEFFICIENCIES IN ESTONIAN FOOD PROGRAM DISCUSSED

Tallinn SOVETSKAYA ESTONIYA in Russian 25 Dec 81 p 2

/Report on a "round table" meeting by L. Torshina, L. Tamm and A. Tret'yakov: "To Strengthen Intersectorial Relations"/

/Text/ The documents of the 26th CPSU Congress and of the November (1981) Plenum of the CPSU Central Committee stress that the food problem--both in economic and political terms--is the central problem of the 11th Five-Year Plan.

The problems of a planned, proportional and balanced development of all the sectors of our republic's agroindustrial complex were widely discussed at the recent plenum of the Central Committee of the Communist Party of Estonia and at the fourth session of the Estonian SSR Supreme Soviet of the 10th convocation.

The republic's five-year plan envisages a significant strengthening of the material and technical base of the sectors of the agroindustrial complex, organization of their harmonious interaction and measures to reduce losses of products and to improve their preservation during transportation, processing and delivery to the consumer. The currently developed overall food program will also serve the fulfillment of all these tasks.

Let us mention some figures. During the 11th Five-Year Plan the total volume of capital investments in the development of the republic's agricultural complex will amount to 1.4 billion rubles. The volume of output produced by the meat and dairy industry will increase 14.7 percent during the five-year plan.

The capacity of the enterprises of the Estonian SSR Ministry of Procurement will increase considerably, which will make it possible to produce more concentrated feed for animal husbandry and more protein and vitamin additives in 1985.

Recently, the representatives of various ministries, of the Estonian SSR State Planning Committee, of scientific institutions and of the Estonian Republic Union of Consumer Societies gathered at the "round table" of the editorial board to discuss some unsolved problems and measures for the practical realization of the food program. We are publishing a report on the meeting at the "round table" of the editorial board.

Barrier to Losses

D. Myartmaa, chief of an administration of the republic's Ministry of Agriculture:

Agriculture is assigned a special place in the link of the food program. A successful solution of the food program largely depends on the expansion of the production of agricultural products. The production of agricultural products is not only the concern of farmers. It is a nationwide concern. A successful fulfillment of complex tasks depends to a large extent on the help of urban areas. Unfortunately, many departments spend too much effort and energy on the fight for their narrow interests (at times even to the detriment of agricultural production). In the fight for putting relations with other departments on a proper footing it is precisely the farm that often turns out to be the suffering and defeated party.

The relations between farms and meat combines are an example of such a "fight." They come to an agreement on the schedules for the acceptance and delivery of livestock and poultry. However, sometimes meat combines refuse to accept livestock in the stipulated quantity and farms are forced to expend more feed on keeping it than planned.

Transport services for farms are organized poorly. The volume of centralized transportation is reduced year after year. Farms located on islands have now been forced to bring mineral fertilizers from Khaapsalu or Pyarnu with their own motor transport facilities. Milk should have been centrally transported to milk combines a long time ago. As yet, however, this indicator does not even reach three-fourths.

Motor depots are entrusted with the centralized delivery of mixed feed. They have received allocations of gasoline and tires for this. Nevertheless, to this day from some mixed feed plants one-half of the products are transported by the motor transport facilities of farms. Feed is needed and motor depots do not transport it. Furthermore, the motor vehicles of farms are loaded last--only after the motor vehicles of motor depots are loaded. If we take into account that the production cost of 1 ton-kilometer in the motor pool of farms of a low freight capacity is twice as high as that of motor depots, we can rightly ask: Where is the efficiency of management about which we talk constantly?

G. Roozve, chief of the Main Administration of the Ministry of Fruit and Vegetable Industry:

The farms of our system face many problems. One of them concerns standards and prices. There are no grades for many vegetables. They can be only standard or nonstandard. But grades with various prices could be introduced. The production of some types of vegetables and fruits is not stimulated by prices. For example, it is cheaper to buy berries from the population than to grow them on farms. The price system needs to be corrected.

We must come to an understanding with the Estonian Republic Union of Consumer Societies about the zones of purchase of berries from the population. For our part in exchange we can sell polyethylene film, fertilizers and so forth to the population. We agree to cooperate with the Ministry of Meat and Dairy Industry in the production of canned meat and vegetables. A local motor depot should be established at the Tallinn Fruit and Vegetable Trade Organization.

D. Myartmaa:

It is necessary to have a republic interdepartmental body, which would manage rayon agroindustrial associations.

Yu. Lumi, deputy chief of the division of agriculture of the Estonian SSR State Planning Committee:

I support Comrade Myartmaa's suggestion. But I believe that such a body should also have some administrative rights. Each system has its own departmental interests. How should they be unified in the process of solution of the food problem?

There is a shortage of people in rural areas. It is impossible to produce agricultural products without them. We must search for ways of best solving social problems in rural areas. This can be done most successfully by combining the efforts of all departments and ministries in the interest of a sharp increase in food production.

F. Vyzu, chief designer of the Design and Technological Office of the Estonian SSR Ministry of Meat and Dairy Industry:

Our sector works, as the saying goes, for the table, for secondary raw materials, for the mixed feed industry and for light industry. Tension is rising. The seasonal nature is felt ever more acutely and in fall production volumes exceed the average level 1.5-fold or twice. The main reason lies in erroneous planning, because it is based on the annual forecasts of the Ministry of Agriculture (concerning the volume of meat and milk purchases), which are not always realized.

Ye. Kraynev, chief of the sector of refrigerating equipment of the same ministry:

I address myself to the representative of the Ministry of Agriculture: To this day some dairy farms have not been provided with refrigerating equipment. Therefore, it happens that undercooled milk is delivered to combines. Hence the drop in the quality and the shortening of the period of preservation of dairy products.

Meat losses occur mostly during freezing. Even a natural loss (due to shrinkage) is standardized at 2 percent of the initial weight. Therefore, it is much more profitable not to freeze meat, but to store or transport it in a chilled state. There are no special containers for the transportation of chilled meat. They are availabe only for frozen meat...

U. Lepik, deputy chief of the Main Administration of Purchases and Sales of the Estonian Republic Union of Consumer Societies:

It is a pity that neither cowberries, nor bilberries can be seen in stores and even cranberries are sold very rarely. The whole point is that the purchase prices of wild growing berries are extremely low--it is not profitable to deliver them to consumer cooperatives. We have often raised the problem of increasing purchase prices before the republic's State Committee on Prices. I would like to stress that the problem can be solved in the republic itself. But so far our proposals have been rejected, although it is quite clear that no one will deliver berries to consumer cooperatives, so long as it is easy to sell them at the market at a price three times as high.

A. Karpa, chief of the State Inspectorate of the Estonian SSR Ministry of Procurement:

In the republic as of 1 December the centralized transportation of milk comprised 72 percent, of livestock, 14 percent and of potatoes and vegetables, 8 percent. Most mixed feed is transported by the transport facilities of farms. This happens in the following way: The controller of the motor depot at a mixed feed plant summons from a farm a motor vehicle for mixed feed and places a seal on the motor vehicle's trip log, after which this transport operation is considered centralized and is credited to the fulfillment of the scheduled transportation plan of the motor depot. When will the Estonian SSR Ministry of Motor Transport and Highways bring the centralized transportation of mixed feed with its own motor vehicles up to 100 percent?

The milk trucks of motor depots should have milk pumps, as well as milk counters. There are different counters for the measurement of fluids, that is, water meters and gasoline gages, but there are no milk counters. It is especially important to have counters during the acceptance of milk from the individual sector.

Trade Is the Final Link

L. Dulger, chief of the division of foodstuffs of the Estonian SSR Ministry of Trade:

Packaged goods now comprise only about 50 percent of the total deliveries. We address the following request to the Ministry of Meat and Dairy Industry: Let poultry meat be also packaged in smaller units.

We address the same request to the Ministry of Procurement. Flour is centrally packed in packages of 2 kg and hulled and rolled products, in packages of 1 kg. However, for most consumers 2 kg of flour is too much. Our orders for flour even in a package of 1 kg are not met year after year.

At present there are still many shortcomings in the fulfillment of trade orders. Especially, there are failures to meet the schedules of delivery of goods. For example, from 23 through 29 November of the current year the Leybur Production Association failed to meet the schedule of delivery of bread and flour products 45 times. During the same period the Tallinn Milk Combine did not fulfill trade orders in 90 cases and failed to meet the delivery schedule 81 times.

Motor transport also lets down trade often. Here is an example: A total of 292 motor vehicles did not arrive to service stores during the last week of November. Even if in some cases transport workers had objective reasons, they should have taken into account the periods of sale of goods and not delayed the delivery of perishable products. This applies primarily to milk and to bread and flour products.

The production of baby food should be treated seriously. In Estonia at present only one enterprise (the Tartu Canning Plant) produces canned baby food. For next year the needs for it amount to 5,200,000 standard tins, while the plant's production plan calls for 4,000,000. The Ministry of Fruit and Vegetable Industry, to whose jurisdiction the Tartu Canning Plant was transferred, should solve this problem fundamentally. Baby food should play a more important part in the production of food products. After all, it is not for nothing that we repeat tirelessly: All the best things are for the children.

Complaints by Transport Workers

M. Koll', first deputy chief of the Estonian Department of the Baltic Railroad:

Strange as it may seem, the railroad cars with agricultural products arriving in the republic are often idle. The acceptance of freight addressed to the Ministry of Fruit and Vegetable Industry is especially poorly organized. When several railroad cars arrive simultaneously, without fail fruits or vegetables begin to spoil before their unloading is completed.

The warehouse facilities of the Ministry of Procurement also need to be reconstructed. However, this year their workers established a complete mutual understanding with railroad workers and tried not to delay the rolling stock without serious reasons for this.

V. Dyukarev, deputy chief of the Administration of Motor Transport of the Estonian SSR Ministry of Motor Transport and Highways:

In their work on servicing agriculture motor transport workers "link up" with five other ministries.

It is well known that general-purpose mixed feed can be loaded in bulk, but special-purpose mixed feed, in no way. It must be packed in polyethylene bags of a capacity of 50 to 60 kg, or a separate motor vehicle is needed for it. It is too unprofitable to utilize large-freight motor vehicles (special feed is transported in small quantities) and there is a constant shortage of polyethylene--there is a lack of coordination.

Special hoppers for a rapid unloading of flour vans are available only at grain plants built comparatively recently. At old plants the methods of flour acceptance have also remained old. Hence the weak development of bulk and container transportation--no more than 40 percent at present. This is at a time when neither consignors nor consignees have enough loaders.

The problem of containers for chilled meat previously mentioned here, to be sure, worries our ministry even more than it worries the Ministry of Meat and Dairy Industry. Otherwise it would have tried to somehow solve this problem a long time ago. Here are the data: On the Valga-Tallinn route the coefficient of utilization of the freight capacity of refrigerators is 0.48. For long distances we load 5½ tons of meat in a 12-ton truck. The reason is the same. The customer's containers are designed exclusively for chilled meat.

But the situation with containers for bread and flour products or groceries is totally different. We have a surplus of them. However, the trade network hampers their wide application, because most stores have not yet been adapted for the acceptance of containers. Yet the Estonian Republic Union of Consumer Societies was able to quickly reequip its trade centers in rural areas! Was it easier to do this there? As a result, when servicing rural shops, we send one person on the trip, but any city trade administration immediately "takes away" two people...

Opinion of Scientists

I. Kaubi, senior scientific worker of the agricultural economic sector of the Institute of Economics of the Estonian SSR Academy of Sciences:

The November (1981) Plenum of the CPSU Central Committee and Comrade L. I. Brezhnev's speech at this plenum confirmed the correctness of the recommendations of scientists who took part in the development of the draft of the food program for our republic.

At present neither the capacities of the storage facilities existing in Estonia, nor the capacities of the processing industry correspond to the scale of procurement of agricultural products. This problem will become all the more acute in the very near future.

There is a need for at least a partial decentralization of the storage and processing of agricultural products in order to sharply reduce their transportation, which not only costs much, but is fraught with considerable losses. The new elevators, affiliates of meat and milk combines, shops for mixed feed production and other enterprises servicing kolkhozes and sovkhozes should be small and be located closer to their basic suppliers.

With regard to potatoes and vegetables, perhaps their storage should be organized directly on farms, including the quota that will be paid for and formulated as delivered to the state. Then the kolkhoz or sovkhoz will be financiall interested not only in obtaining a high harvest, but also in carefully saving it.

The capacity of processing enterprises should be such as to ensure the fulfillment of their production tasks in any, even the most productive, year and during the most intense period. This means that, concerned with reducing the "seasonal nature," at the same time, we must give thought to an increase in reserve capacities in the corresponding sectors of industry. For the present they are quite limited and are designed for the average level. An unexpected abundance of "raw materials" for processing, instead of joy, can bring grief and even losses.

The coordination of supply and demand in the process of sale of agricultural products is the second problem to which I would like to draw attention.

For example, are cases of overstocking with fruits and vegetables permissible? But such cases in the stores of the Fruit and Vegetable Trade Administration (now subordinate to the Estonian SSR Ministry of Fruit and Vegetable Industry) are repeated year after year. For example, there is a long-term contract for the deliveries of early cabbage from Azerbaijan to Estonia. In the south it ripens as early as May and precisely at that time our consumer awaits it impatiently. However, shippers are systematically late with deliveries. The following month local cabbage, which is in no way worse than imported cabbage--it is even fresher, of course--arrives at the counters. As a result, a surplus of this product is formed. Caucasian cabbage is the first to be sold, because with the transport it costs more, while, for the most part, local cabbage is fed to livestock. Trade organizations simply refuse to accept it.

How to observe the interests of suppliers and consumers and the interests of the state? Obviously, under such conditions the republic either does not at all need deliveries from distant regions, or they are acceptable only in a volume that is not so substantial.

Almost the same can be said about trade in apples, which has also been poorly organized in the republic until recently. In fall they are plentiful, but in winter and spring they are not to be bought anywhere..

The large number of such seemingly everyday practical factors create the problems of the republic's agroindustrial complex, which require a scientific analysis, the most serious economic substantiation and an immediate solution.

V. Lapin, head of the laboratory of long-term problems of the Estonian SSR Ministry of Food Industry, winner of the prize of Soviet Estonia:

I take this opportunity to register complaints about the Ministry of Procurement, which disrupts, for example, the production of baked oat goods--fine grinding of oat flour has not been organized. The Ministry of Fruit and Vegetable Industry "took away" from us a tested formula and the technology of preparation of spicy-aromatic herbs, but it was unable to organize their sale in the trade network. I am ready to vouch that our specialists are capable of sharply improving the quality of fruit and berry wines now produced at the ministry's enterprises. And who does not like cranberries in sugar? The republic's food industry can easily master such sweetmeats if the Estonian Republic Union of Consumer Societies manages to create a reserve of cranberries.

I do not mention all these "secondary" products arbitrarily. Without them the normal food ration will be impoverished as, incidentally, it will be impoverished without mineral water, which is very reluctantly sold by the trade network and especially public dining.

> The opinions expressed at the meeting at the "round table" of the editorial board indicate that, along with certain positive aspects characterizing the links of the agroindustrial complex, frictions also exist among them and there are many unsolved problems.

The editorial board is awaiting an answer from the interested organizations, ministries and departments to the questions raised at the "round table."

The editorial board thanks all the participants in the meeting at the "round table" and hopes that with the help of specialists the unsolved problems connected with the implementation of the food program will continue to find a wider reflection on the newspaper's pages.

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AGRO-ECONOMICS AND ORGANIZATION

DIFFERENTIAL NORM ESTIMATES SET IN ESTONIA TO AID LAGGING FARMS

Moscow SEL'SKAYA ZHIZN' in Russian 17 Jan 82 p 2

/Article by Yan Praggi, candidate of economic sciences, Estonian SSR: "An Association and a Lagging Farm"/

> /Text/ Differential norm estimates for farm management have been established for all kolkhozes and sovkhozes in the Estonian SSR. The use of these estimates is leveling off the conditions of management and activating a campaign to improve production efficiency.

Estonian agriculture is rather highly developed. However, average indicators often conceal great contrasts. There are farms which obtain 1,000 or more rubles of income per hectare. And there are also farms where this indicator is several times less. Here the problem has to do mainly with the fact that these farms do not operate under the same natural-economic conditions. Here we have in mind the quality of the land and the degree to which support is provided in the form of labor resources and fixed and working capital.

Over the past few years, with cold and rainy weather prevailing, a considerable increase has taken place in the number of farms that have fallen behind as a result of having been forced into carrying out their production operations under difficult natural-economic conditions. Some of them were added to the list of unprofitable farms. The principle of equal pay for equal labor was disrupted and the movement of manpower away from weak farms commenced. The introduction of raised rates for farms located in hilly areas, that is, facilities operating under comparatively worse conditions, did not correct the situation.

Other attempts were made to assist those kolkhozes and sovkhozes operating under complicated conditions. About 10 years ago, they began annexing backward farms to economically stronger ones. But some of the enlarged super-farms became difficult to control and, as a result, they themselves were added to the list of farms which had fallen behind.

It became clear that individual measures were not adequate for halting the falling behind of farms. Instead, a system was required for leveling off the conditions of management, a system developed in a manner such that it would create the prerequisites for improving weak farms while doing nothing to disrupt the development of economically strong ones.

Such an opportunity presented itself coincidental with the creation of agro-industrial associations (RAPO's) in all regions of the republic. The councils of these associations, in addition to the purely administrative fucntions of the rayon agricultural administrations, also controlled the levers of economic regulation. The RAPO's, by means of centralized funds, can redistribute the additional profit realized by some farms owing to more favorable natural-economic conditions.

In order to form the centralized funds on a strictly scientific basis and redistribute the available funds in a rational manner, a complete evaluation of the conditions of management had to be carried out. This required the use of methods of mathematical analysis, which made it possible to determine the normative profit for each farm. The computations took into account all of the most important economic factors: an evaluation of the quality of the land, availability of manpower and fixed productive capital, production specialization and the use of mineral fertilizer and purchased feed.

The normative profit is established both for each farm separately and for a rayon as a whole. The ratio of the normative profit of a farm to the normative profit for a rayon provides us with the coefficient that is used for forming the centralized funds for the RAPO's. In Vil'yandiskiy Rayon, for example, the value for this indicator for farms having excellent or poor production conditions differs by a factor of more than 10.

As a rule, four centralized funds are created in the RAPO's /rayonnoye agrarno-promyshlennoye ob"yedineniye; rayon agro-industrial association/ of the Estonian SSR: material incentive, production development, socio-cultural measures and housing construction and also a mutual assistance fund. The proportion of participation in these formations, as already noted above, is dependent upon the objective conditions of management: greater contributions are made into the centralized funds by those having better formations. This principle is maintained in the distribution of the centralized funds of a RAPO: the economically weak receive more.

Let us examine this using specific examples. Since 1975, an agro-industrial association has been in operation in Vil'yandiskiy Rayon. During the Tenth Five-Year Plan, 5.2 million rubles were paid into the centralized funds of the RAPO. Of this amount, 4.5 million rubles were expended. In the process, 62 percent of the centralized profit was employed for expanding production operations. Seven percent was used for socio-cultural requirements and for housing construction, 15 percent for material incentives and 16 percent of the profit was used through the mutual assistance fund. Farms which operated under complicated natural-economic conditions received more than 500,000 rubles from the centralized funds. For example, the Kyrgemyae sovkhoz was allocated 208,000 rubles alone for augmenting its working capital, 80,000 rubles were allocated to the Ab'ya Sovkhoz and so forth.

The Pyarnu RAPO was created 3 years ago in a zone where the natural-economic conditions are considerably more complicated than those in Vil'yandiskiy Rayon. The effectiveness of integration is especially apparent here. Let us examine, for example, the dynamics of development of economically weak farms. In 1979, more than 100,000 rubles were allocated from the centralized funds for the purpose of providing assistance to those kolkhozes and sovkhozes operating under complicated conditions. From this amount, the Pyarnyye, Tali and Syprus Sovkhozes each received 30,000 rubles for supplementing their material incentive funds. The money was used for issuing incentives to those workers who carried out seasonal work which normally these farms were unable to cope with.

The measures undertaken had a beneficial effect with regard to raising cropping power and strengthening the feed base. It was by no means an accident that the backward farms in Pyarnuskiy Rayon, over the course of a year's time, increased their gross milk yield by 14 percent and overtook their neighbors in terms of their rates of growth. The situation was the same in the case of meat production. The financial situation was strengthened: whereas the average profit for the rayon had increased by 17 percent, for the economically weak farms the increase was 80 percent.

A comparison of the work of the Pyarnu and Vil'yandi RAPO's reveals very convincingly the opportunities afforded by the creation of associations for improving the economies of backward farms. Indeed, Pyarnuskiy Rayon, although it is inferior to Vil'yandiskiy Rayon from the standpoint of agricultural production conditions, nevertheless is not considered to be the most "difficult" rayon in the republic. Considerably more complicated production conditions prevail in such rayons as Valgaskiy, Khaapsaluskiy and Kingiseppskiy. In the opinion of a number of economists, RAPO's created recently here lack the internal resources required for improving the backward farms.

The resources in the centralized funds of such associations must, at least initially, come from without -- from the centralized funds of the republic's agro-industrial complex. The plan for creating a republic APK /agro-industrial complex/, as we are well aware, has been developed. Quite properly, it calls for the council of the APK to be authorized to redistribute funds within the branch. But even these financial resources will be insufficient. Will a review of the procurement prices for certain types of products, as proposed by a number of economists, correct this situation? It is not believed so. Ideally, an examination should be undertaken simultaneously of the formation of special funds within the republic for improving the economically weak farms. Otherwise, an improvement in prices, as has already been carried out on more than one occasion, will benefit mainly the economies of strong kolkhozes and sovkhozes.

7026
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TILLING AND CROPPING TECHNOLOGY

ADAPTATION OF EQUIPMENT, TILLAGE MEASURES TO NORTHERN KAZAKHSTAN CONDITIONS

Moscow SEL'SKAYA ZHIZN' in Russian 31 Dec 81 p 2

/Article by E. Gossen, Lenin prize laureate and deputy director of the All-Union Scientific Research Institute of the Grain Economy and V. Khan, deputy chief of the Agricultural Administration of the Tselinogradskaya Oblast Executive Committee: "Virgin Land Complex"/

> /Text/ The grain growers of Kazakhstan are setting a fine example of good and stable work. It has become possible to obtain high yields in the dry steppe zone owing to the extensive use of all elements of the soil-protective system of farming.

This summer, during the entire growing season for the grain crops, less than 80 millimeters of precipitation fell in many regions of northern Kazakhstan. Yes and the distribution of this precipitation was very unsatisfactory. For a period of time following the heading stage, only 37-38 percent of the precipitation fell. Prior to the end of July, there was only a "stagnant" supply of moisture in the root layer on a large portion of the areas. Dry weather during the month of June is typical for the virgin land area. The zonal agricultural practices have been adapted to the lack of rainfall during June. Nor does it come as a surprise if a drought occurs during the month of July. But a July-August drought is so atypical for this region that the specialists have still not been able to find a period in the past similar to the one which occurred this summer.

Naturally, a comparison against past experience is required in order to determine how stable and independent of the weather is virgin land farming. The result realized at the end of the year by the Kazakhstan farmers is well known: more than 960 million poods of grain were sold to the state. The stability of the yields obtained from the reclaimed virgin land was noted by Leonid Il'ich Brezhnev during the November (1981) Plenum of the CC CPSU. During this complicated year, many regions succeeded in achieving and even surpassing the average annual level of the Tenth Five-Year Plan for grain procurements, which is generally considered to have been successful. This year, such large grain oblasts as Kokchetavskaya, Severo-Kazakhstanskaya, Aktyubinskaya and Turgayskaya fulfilled not only their plans but also their socialist obligations.

Tselinogradskaya Oblast suffered from the drought conditions moreso than other oblasts. But its farms harvested one and a half times more grain than during any of the severely dry years of the past decade. Here there are kolkhozes and sovkhozes, the fields of which appear not to have been affected at all by the drought. At the Shuyskiy Sovkhoz in Atbasarskiy Rayon, for example, 16.2 quintals of grain were obtained from each of 20,900 hectares -- more than the average obtained during the Tenth Five-Year Plan.

Accidental successes do not occur in farming. The Shuyskiy Sovkhoz, the field crop husbandry branch of which is headed by the talented agronomist N.N. Selivanov, was long ago raised as an example of the complete mastering of the zonal soil-protective system of farming. The dynamics of growth in the sovkhoz's yields clearly illustrate the principal stages in the use of this system. And the success achieved by the grain growers during such an "atypical" year only serves to confirm once again that the system adopted in northern Kazakhstan for managing the grain economy is both correct and promising. The principal features of the virgin land agrotechnical complex were developed some time ago. Non-plow soil cultivation using sweep type implements with retention of the stubble cover, sowing operations carried out using stubble field sowing machines, grain-fallow crop rotation plans with brief rotations, the sowing of grain crops during the second half of May and snow retention work are all measures that have become firmly implanted in the arsenal of the farmers.

As is known, the introduction of optimum five-field crop rotation plans, with a field of clean fallow, has proven to be extremely difficult in the virgin land region. The work has reached the point where the proportion of the fallow field has fallen to 5-8 percent. Such "intensification" of field crop husbandry furnished an immediate negative result. Unfortunately, the problem of the fallow field continues to this day, although many have already drawn a lesson from recent mistakes and have radically altered their attitude towards clean fallow. The farms in Tselinogradskaya Oblast, for example, during just 1 year's time, increased their fallow area by 170,000 hectares, raising the proportion of fallow to 16.7 percent. An increase is taking place in the number of virgin land sovkhozes and kolkhozes having full fallow norms. As expected, the drought "ignored" these facilities.

Life does not stand still and at the present time it is forcing us to examine many things from new positions. There was a time when we evaluated the effectiveness of field crop rotation plans based upon the yield of bread grain per unit of crop rotation area. Here a five-field plan with 20 percent fallow was beyond compare. But with the development of animal husbandry, forage crops began occupying greater space on the arable land. Naturally, the concept of an optimum crop rotation plan must be defined more precisely. But these refinements were not always successful in actual practice and at the present time more rational solutions are available. A two-field corn-grain crop rotation plan has proven its effectiveness. On animal husbandry farms, a six-field crop rotation plan having two fields of forage crops -- barley and oats -- has proven its worth. At some sovkhozes located on land having better moisture conditions, attempts are being made to introduce pulse grasses of two years use into the grain crop rotation plans.

Today the regional agricultural practices are being developed along the lines of further differentiation. The goal has been assigned of achieving an individual variant of the technology for each soil-climatic zone and for each year. How does this appear in actual practice? All zones have their own seed sowing norms. The agricultural practices are containing fewer elements considered to be mandatory for all and for all times. Early spring harrowing and pre-sowing tilling, for example, are now considered to be mainly optional or selective in nature. A "standard" arrangement is no longer valid: for each farm -- 100 percent deep autumn plowing. This would have been very inappropriate during this past dry autumn period.

The agricultural practices are differentiated not only on the scale for a zone, rayon or farm, but also within the limits of a crop rotation plan. For example, it has become a rule to vary the depth of the principal tilling of the soil depending upon a field's place in a crop rotation plan. The sowing norm also does not remain unchanged throughout the duration of the entire rotation. Variety changes within the framework of a crop rotation plan have proven their worth, since the potential of a variety differs depending upon the predecessor arrangement. A need exists for employing different types of sowing machine (SZS-2.1 or SZP-3.6) for sowing carried out following different predecessor crops and in some instances different sowing methods.

In principle, none of the above is new to virgin land practice. Today the task is one of making it easier for an agronomist to select the best variant and to provide him with a technological chart composed for the entire rotation of the crop rotation plan. Towards this end, scientists at the All-Union Scientific Research Institute of the Grain Economy developed a technological system for obtaining planned yields. This, in short, is an agrotechnical model of a crop rotation plan which embodies the principle: an individual technology for each field and each crop. At the Stepnoishimskaya Experimental Station, where such a technology has been mastered for the most part, an average of 19.3 quintals of grain per hectare was obtained during the Tenth Five-Year Plan and during the dry year of 1981 -- 20.7 quintals per hectare.

The introduction of zonal and microzonal technologies should ideally be reinforced by improvements in the structure of the area under crops for the region as a whole. We have already mentioned the Shuyskiy Sovkhoz, where practically every brigade has its own specialized planting structure. To put it bluntly, the field allocated for a crop is considered to be the best one available both for the crop and the sovkhoz. The farm thus stands to gain from an increase both in cropping power and in money. It is obvious that a considerably greater effect could be realized from such specialization carried out at the level of large-scale agroclimatic zones. First of all, we have in mind releasing those regions which are capable of producing strong wheat during any year from having to cultivate barley and also saturating with forage crops those regions where difficulties are encountered in attempting to cultivate high quality bread grain. The existing structure for the areas under crops is still not taking this requirement into account.

It is believed that the time has come to discuss fully the need for creating a new and third generation complex of antierosion machines for northern Kazakhstan. In operating the standard set of implements that is presently available, it is very difficult to carry out the agricultural practices on an individual basis. However, this is not meant to imply that the new generation of machines must include several types of cultivators, deep rippers, sowing machines and so forth. To the contrary, a preference should be shown here for standardization in the case of these implements. For example, we have a good cultivator in the KPE-3.8 unit. But it has working organs of only one type -- sweeps. If semi-sweeps, sub-soil and needle-shaped organs and chisels are produced for it, it could operate equally effectively on soils which differ in terms of mechanical texture, type and degree of weediness and also under various moisture conditions.

In essence, we presently do not have a good implement for pre-sowing cultivation. The shallow plow has been banished from the fields.

Our principal sowing machine, the SZS-2.1, is also by no means satisfactory to all concerned. Those farms having highly fertile soils and which employ raised sowing norms require a sowing machine for wide-strip sowing. It can be produced, without any special difficulty, based upon use of the SZS-2.1 machine. Complaints are being received from some rayons concerning the removal from production of the LDS-6 disk sowing machine. A decision has been handed down concerning the resumption of production of this machine under a new modification and this decision was made some time ago. However, the machine has yet to reach the plant production line.

Some mention must be made regarding the tractors. Today the principal workers out on the steppe fields are the K-700, K-700A and K-701 units. The tractor builders have promised the farmers that they will begin receiving the K-710 unit in the near future. However, no urgent requirement as yet exists for the raised power capability of this class of tractor. A more serious problem is that of raising their reliability. Indeed, we will be very frank in stating that by no means is the K-700 unit without fault in this regard.

We recall that during the November Plenum of the CC CPSU, during the course of reviewing the situation in agricultural machine building, L.I. Brezhnev considered the principal task to be that of raising the technical level and improving the reliability and durability of the agricultural machines. The grain economy of northern Kazakhstan, as is known, is the most energy-consuming branch in the country. Thus the relationship between the reliability of the machines and production stability is indeed very close here. We must ensure that the technology is not dictated by the equipment but rather by the agronomist.

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